

DAVID ARTHUR CHAMULAK

Physics Division, Bldg. 203
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, IL 60439
USA

Tel: 1 630 252-3442
Fax: 1 630 252-3903
E-mail: dchamulak@anl.gov

Education

Michigan State University	PhD Physics	2003–2009
Lawrence Technological University	Graduate Study in Computer Science	2002–2003
Lawrence Technological University	BS Physics and Computer Science	1998–2002

Appointments

2009–present	Postdoctoral Appointee, Theory Group Argonne National Laboratory	
2005–2009	Research Assistant, Department of Physics and Astronomy Michigan State University (MSU)	
2006–2007	Student Researcher, X-2 Thermonuclear Applications Los Alamos National Laboratory	
2001–2003	Research Assistant, Intelligent Systems and Autonomous Robotics Lab Lawrence Technological University (LTU)	

Awards

American Astronomical Society Chambliss Award Honorable Mention	2007
Award for Outstanding Senior in Physics(LTU)	2002
Meritorious Achievement in the Mathematical Contest in Modeling	2002

Teaching

Graduate Teaching Assistant, Physics Lab for Scientists, MSU
Graduate Teaching Assistant, Introductory Physics Lab, MSU

Refereed publications

- 1) *Surface Detonation Models of Thermonuclear Supernovae. II. Explosion Properties and Nucleosynthetic Yields*, Meakin, C. A., Chamulak, D. A., Seitenzahl, I., Truran, J., in preparation.

- 2) *Surface Detonation Models of Thermonuclear Supernovae. I. Yield Calculation Method*, Meakin, C. A., Chamulak, D. A., Seitenzahl, I., Truran, J., in preparation.

- 3) *Evaluating Systematic Dependencies of Type Ia Supernovae: The Influence of Progenitor ^{22}Ne Content on Dynamics*, Townsley, D. M., Jackson, A., Calder, A. C., Chamulak, D. A., Brown, E. F., Timmes, F. X. 2009, ApJ, 701, 1582
- 4) *The Reduction of the Electron Abundance during the Pre-explosion Simmering in White Dwarf Supernovae*, Chamulak, D. A., Brown, E. F., Timmes, F. X., & Dupczak, K. 2008, ApJ, 677, 160.
- 5) *Gamow-Teller strength for the analog transitions to the first $T = 1/2, J^\pi = 3/2^-$ states in ^{13}C and ^{13}N and the implications for type Ia supernovae*, Zegers, R. G. T., Brown, E. F., Akimune, H., Austin, S. M., van den Berg, A. M., Brown, B. A., Chamulak, D. A., Fujita, Y., Fujiwara, M., Galés, S., Harakeh, M. N., Hashimoto, H., Hayami, R., Hitt, G. W., Itoh, M., Kawabata, T., Kawase, K., Kinoshita, M., Nakanishi, K., Nakayama, S., Okumura, S., Shimbara, Y., Uchida, M., Ueno, H., Yamagata, T., & Yosoi, M. 2008, Phys. Rev. C, 77, 2, 024307.
- 6) *The Laminar Flame Speedup by ^{22}Ne Enrichment in White Dwarf Supernovae*, Chamulak, D. A., Brown, E. F., & Timmes, F. X. 2007, ApJ, 665, L93.
- 7) *The Laminar Flame Acceleration by Neon-22 Enrichment in White Dwarf Supernovae*, Chamulak, D. A., Brown, E. F., & Timmes, F. X. 2006, in Nuclei in the Cosmos 9, Proc. Sci(NIC-IX), 079
- 8) *An Affordable Modular Mobile Robotic Platform With Fuzzy Logic Control and Evolutionary Artificial Neural Networks*, Tedder, M., Chamulak, D. A., Chen, L., Nair, S., Shvartsman, A., Tseng, I., & Chung, C. 2004, Journal of Robotic Systems, 21, 8, 419.

Abstracts and Talks

- 1) *The Laminar Flame Speedup by Neon-22 Enrichment in White Dwarf Supernovae*, Chamulak, D. A., Brown, E. F., & Timmes, F.X. 2006, American Astronomical Society Meeting Abstracts, 209, #107.06